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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,383	02/21/2002	Bryan Bees	027478-0102	5011

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EXAMINER

SANDERS JR, JOHN R

ART UNIT PAPER NUMBER

3737

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/078,383

Applicant(s)

BEES, BRYAN

Examiner

John R. Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claim 24 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the control circuit is intended to perform being merely "coupled" to the display. Amending the claim to state that the control circuit controls the filter based on the display output or a display state would obviate this rejection.

Claim Rejections - 35 USC § 103

4. **Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,810,804 to Nyui in view of Kerns, Jr., of record.**
5. Nyui clearly discloses an optical system with an illumination light system **1**, a filter **20** that reduces light intensity in a specific subsection of the illumination beam, an objective **4**, and a means **32** for moving the filter out of the observation path. Nyui does not disclose a spectral filter with the properties claimed in the instant invention.

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6. Regarding claims 1-8, Kerns, Jr. teaches a spectral filter, in the form of a contact lens, with a plurality of radial regions each having a different transmission characteristic with regard to the wavelength and intensity of the incident light (abstract). Kerns, Jr. teaches a filter that absorbs portions of the light in different absorption regions, separated by flat absorption edges (FIGS. 5, 10). The purpose of the spectral filter of Kerns, Jr. is taught as a means of reducing the intensity of UV and blue light impinging upon the retina.

7. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the spectral qualities of a filter as taught by Kerns, Jr. to filter light incident upon the eye within an optical device used for projecting light onto the eye, such as Nyui, in order to reduce the intensity of UV and blue light impinging upon the retina.

8. Regarding claim 9, Kerns, Jr. does not expressly teach the blue light region being reduced by 90%. However, in column 6, lines 38-52, Kerns, Jr. teaches a wide range of transmission percentages for the range of 400-510 nm, indeed between 0 and 100%. It would have been obvious to one of ordinary skill in the art to reduce the transmission of blue light to 90% to further reduce the possible negative effects associated within that range of the spectrum.

9. Regarding claims 10-13, Kerns, Jr. teaches filter regions in the center of the lens that reduce the blue light spectrum by 50% (FIG. 6). In embodiment variations, wavelengths of 400-500 nm are attenuated by 40-60% (FIGS. 8 and 9). Kerns, Jr. also teaches an outer region of the lens that is optically clear (column 3, lines 8-37).

10. Regarding claims 16-18, and 23-25, Nyui does not disclose axially and laterally aligning the filter with the eye in the x, y plane. However, it is common trade practice to have axially and laterally displaceable elements in an optical device, especially one relating to the eye. These

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elements are usually coupled to a control circuit incorporating an eye-tracking device. Their positions are altered based on the eye position data for purposes of aligning the effect of the device (retinal photography, laser surgery, keratotomy, etc.) and data collection (wavefront sensors, image detectors) to the proper location of the eye. It would have been obvious to one of ordinary skill in the art to move the filter; first, axially to alter the perceived size of the filtered light to match the pupil size of the eye (see Kerns, Jr., col. 3: 10-14); second, laterally to align the filter regions with the axis of the eye. This is automatically accomplished in Kerns, Jr. by the contact lens being in contact with the cornea.

11. Regarding claim 19, a movable filter is inherently movable either electronically or manually.

12. Regarding claim 21, Nyui in view of Kerns, Jr. does not teach the filter as a thin film, LCD or electrochromic film. However, these are all filter types that are commonly used in the art and, at the time of the invention, would have been obvious to an artisan of ordinary skill as means of reproduce the spectral characteristics taught by Kerns, Jr. for use in an optical device.

13. Regarding claim 22, Nyui does not disclose a surgical microscope. However, surgical microscopes are known optical devices in the art for projecting light onto the eye. At the time of the invention, it would have been obvious to one of ordinary skill in the art to apply the spectral properties of the filter disclosed by Kerns, Jr. to a filter in a surgical microscope in order to reducing the intensity of UV and blue light impinging upon the retina.

14. **Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nyui in view of Kerns, Jr., and further in view of Dobrowolski et al., of record.**

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15. Nyui in view of Kerns, Jr. discloses the above limitations but do not expressly discloses having the x, y plane of the filter disposed non-normal to the beam. Dobrowolski teaches the use of filters at oblique angles to the beam axis used to filter the beam at predetermined wavelengths. It is also known in the art that changing the filter angle will alter the intensity transmittance properties of the filter, since the beam has to travel at an oblique angle through the filter media. It would have been obvious to one of ordinary skill in the art to dispose a filter with the spectral properties taught by Kerns, Jr. to be non-normal to the incident light in order to alter the transmittance properties of the filter, as in Dobrowolski.

Remarks

16. It is well known in the art (see cited art Stephens et al. '046 and Johansen et al. '748) that the range of the electromagnetic spectrum associated with UV and blue light has been implicated as a cause of macular degeneration, as well as other medical conditions. It is also known in the art to filter light within an optical device in general, not necessarily devices in the medical art. Any device having a light source, a filter, and an objective constitutes an "optical device" within the scope of the independent claim.

17. Kerns, Jr. discloses a filter with certain characteristics. It is commonly known to use filters in optical devices. The specific spectral qualities of the filter disclosed by Kerns, Jr. are expressly disclosed as relating to the reduction of certain harmful wavelengths of light incident upon the retina. Therefore it is obvious to use a filter with the spectral characteristics taught by Kerns, Jr. in an optical device designed to project light onto the eye.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John R. Sanders whose telephone number is (571) 272-4742. The examiner can normally be reached on M-F 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


jrs


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